

## **Distributed method for crossmatching of astronomical catalogs based on apache spark platform**

Glotov E., Gerasimov S., Meshcheryakov A.

*Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia*

---

### **Abstract**

Copyright © 2016 for the individual papers by the papers' authors. In the article a horizontally-scalable algorithm for matching astronomical catalogs, based on Apache Spark, distributed computing platform, is proposed. The method provides the necessary accuracy and good performance compared to the best systems available in the astronomical community. Horizontal scalability of the proposed method was confirmed by experiments on a cluster deployed in the Microsoft Azure cloud service.

---

### **Keywords**

Apache Spark, Astronomical catalogs, Cloud computing, Cross-matching, Distributed computing, HEALPix